

## REMARKS

### **I. Introduction**

With the cancellation herein without prejudice of claims 19 and 21, claims 11, 12, 14 to 18, 20, and 22 are pending in the present application. Claim 11 has been amended herein without prejudice to include certain features of canceled claims 19 and 21. In view of the foregoing amendments and the following remarks, it is respectfully submitted that all of the presently pending claims are allowable, and reconsideration is respectfully requested.

### **II. Rejection of Claims 11, 12, and 14 to 22 Under 35 U.S.C. § 102(b)**

Claims 11, 12, and 14 to 22 were rejected under 35 U.S.C. § 102(b) as anticipated by German Patent Publication No. 37 32 656 ("Foerster et al.") or Japanese Patent Publication No. 59-131816 ("Tabata et al."), in view of U.S. Patent Application Publication No. 2001/0028867 ("Shimoda et al."). Claims 19 and 21 have been canceled herein without prejudice, thereby rendering moot the present rejection with respect to claims 19 and 21.

As an initial matter, Applicants note that this anticipation rejection is improper. In this regard, to anticipate a claim, each and every element as set forth in the claim must be found in a single prior art reference. Verdegaal Bros. v. Union Oil Co. of Calif., 814 F.2d 628, 631, 2 U.S.P.Q.2d 1051, 1053 (Fed. Cir. 1987). Furthermore, "[t]he identical invention must be shown in as complete detail as is contained in the . . . claim." Richardson v. Suzuki Motor Co., 868 F.2d 1226, 1236, 9 U.S.P.Q.2d 1913, 1920 (Fed. Cir. 1989). That is, the prior art must describe the elements arranged as required by the claims. In re Bond, 910 F.2d 831, 15 U.S.P.Q.2d 1566 (Fed. Cir. 1990). The Final Office Action states at page 6 that "it would have been **obvious** to a person having ordinary skill in the art to supply [Foerster et al.] with fuel produced in a hydrocarbon gas reformer and to utilize platinum a [sic] catalytic layer material, in view of the teaching of [Tabata et al.]," (emphasis added); and the Final Office Action states at page 7 that "it would have been **obvious** to a person having ordinary skill in the art to form the [Foerster et al.] and/or [Tabata et al.] porous member(s) of a ceramic foam having silicon carbide, in view of the teaching of [Shimoda et al.]," (emphasis added). Thus, the Final Office Action apparently recognizes that the present claims are not **anticipated** by Foerster et al., Tabata et al., or Shimoda et al.

Notwithstanding the foregoing, it is respectfully submitted that Foerster et al., Tabata et al., and Shimoda et al. do not anticipate the present claims and that the combination of Foerster et al., Tabata et al., and Shimoda et al. does not render unpatentable the present claims for at least the following reasons.

In order for a claim to be rejected for obviousness under 35 U.S.C. § 103(a), the prior art must teach or suggest each element of the claim. See Northern Telecom, Inc. v. Datapoint Corp., 908 F.2d 931, 934 (Fed. Cir. 1990), cert. denied, 111 S. Ct. 296 (1990); In re Bond, 910 F.2d 831, 834 (Fed. Cir. 1990). In addition, as clearly indicated by the Supreme Court, it is "important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the [prior art] elements" in the manner claimed. See KSR Int'l Co. v. Teleflex, Inc., 127 S. Ct. 1727 (2007). Further, the Supreme Court in KSR noted that the analysis supporting a rejection under 35 U.S.C. 103 should be made explicit. M.P.E.P. §2143.

Claim 11, as presented, relates to an afterburner for afterburning a residual gas from at least one of a reforming process and a fuel cell process, including, *inter alia*, at least one nozzle, at least one device for providing an air supply, a heat-resistant, open-pore ceramic foam for at least partially filling the combustion chamber, and *an ignition device one of installed and formed in the ceramic foam*. Support for this amendment may be found in the Substitute Specification, e.g., at page 6, lines 18 to 26.

Foerster et al. do not disclose, or even suggest, all of the claimed features of claim 11, as presented. Nowhere do Förster et al. disclose an ignition device one of installed and formed in the ceramic foam. Indeed, the Figure of Foerster et al. plainly shows a burner 1 that is outside of a flame guiding tube 4. Therefore, Foerster et al. do not disclose, or even suggest, the feature of *an ignition device one of installed and formed in the ceramic foam*, as provided for in the context of claim 11, as presented.

In addition, Tabata et al. also do not disclose, or even suggest, the feature of *an ignition device one of installed and formed in the ceramic foam*, and thus, fail to cure this critical deficiency. In this regard, Figure 3 of Tabata et al. merely indicates a spark plug 8 that is outside of an oxidation catalyst mat 2. Therefore, Tabata et al. also do not disclose, or even suggest, the feature of *an*

*ignition device one of installed and formed in the ceramic foam*, as provided for in the context of claim 11, as presented.

Further, Shimoda et al. also do not disclose, or even suggest, the feature of *an ignition device one of installed and formed in the ceramic foam*, and thus, fail to cure this critical deficiency. In this regard, Shimoda et al. merely indicate particular material combinations for an exhaust emission control device. (Shimoda et al., ¶ [0010]). Therefore, Shimoda et al. also do not disclose, or even suggest, the feature of *an ignition device one of installed and formed in the ceramic foam*, as provided for in the context of claim 11, as presented.

However, the Final Office Action asserts that having “a ceramic foam including silicon carbide, open pores via reticulation, include and [sic] electric heater, electric glow filament and a glow plug, ignitor location, nozzles, etc., can be viewed as nothing more than mere matters of choice in design absent e [sic] showing of any new or unexpected results produced therefrom over the prior art of record.” Final Office Action, p. 7. In this regard, it is respectfully submitted that with respect to the feature of *an ignition device one of installed and formed in the ceramic foam*, the Specification describes certain advantages, e.g., at page 5, lines 2 to 8.

Accordingly, it is respectfully submitted that the Foerster et al., Tabata et al., and Shimoda et al., taken alone or in any combination, does not disclose, or even suggest, all of the features included in claim 11, as presented. As such, it is respectfully submitted that Foerster et al., Tabata et al., and Shimoda et al. do not anticipate or render unpatentable claim 11.

As for claims 12, 14 to 18, 20, and 22, which ultimately depend from and therefore include all of the features included in claim 11, it is respectfully submitted that Foerster et al., Tabata et al., and Shimoda et al. do not anticipate or render unpatentable these dependent claims for at least the same reasons more fully set forth above.

In view of all the foregoing, withdrawal of this rejection is respectfully requested.

### III. Conclusion

It is therefore respectfully submitted that all of the presently pending claims are allowable. All issues raised by the Examiner having been addressed, an early and favorable action on the merits is earnestly solicited.

Respectfully submitted,

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By: /Clifford A. Ulrich/  
Clifford A. Ulrich  
Reg. No. 42,194

for

Gerard A. Messina  
Reg. No. 35,952

KENYON & KENYON LLP  
One Broadway  
New York, New York 10004  
(212) 425-7200  
**CUSTOMER NO. 26646**